Appl. No. 10/726,305 Reply to Office Action dated October 13, 2004

## Amendments to the Specification:

Please replace the paragraph bridging pages 8 to 10 with the following amended paragraph:

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The process of the present invention is the process for producing an artificial bone model in accordance with a process which comprises extending a powder material for sintering comprising 30 to 90 parts % by weight of powder of a synthetic resin and 10 to 70% by weight of an inorganic filler to form a thin layer and irradiating a portion of the thin layer of the powder material for sintering in a shape formed based on tomographic information of a natural bone with laser light so that the powder material for sintering of the irradiated portion of the thin layer is sintered, the extension of the powder material for sintering to form the thin layer and the irradiation of the portion of the thin layer with laser light for sintering being conducted repeatedly. The word sintering originally means to bring about agglomeration in by heating in the metallurgical In the present invention, the term sintering is defined as the phenomena in which the powder of the synthetic resin in the material for sintering is fused by the irradiation of the laser light and the particles of the inorganic filler in the material for sintering [[is]] are adhered together by the fused synthetic resin and the material for sintering within the area irradiated

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by the laser light is brought into a solid mass after cooling. The process set forth above is not particularly limited. example, the process known in the art called selective laser sintering process which is explained in detail in [[the]] published applications, for example, WO 92/08567 and EP 0703036, is applicable for the process of the present invention. process for producing an artificial bone model in the present invention is referred to as a selective laser sintering process for convenience. The selective bone model has been applied to produce molded articles from plastic materials in recent areas. However, the process for molding a bone model or a bone model produced by the selective laser sintering process has not been disclosed at least with the knowledge of the inventors of the present invention. In the selective laser sintering process, the powder material for sintering is extended to form a thin layer, and a portion of the thin layer having the object shape is irradiated with a laser light or the like so that the irradiated portion of the powder material for sintering is sintered with laser light. The extension of the powder material for sintering and the sintering of the thin layer of the material with the laser light are repeated successively. The thickness of the thin layer of the powder material for sintering extended in a single step is, in general, 0.01 to 0.3 mm. The thickness can be suitably selected in accordance with the productivity of the

product and the accuracy of the dimension. When the sintering of one layer of the powder material for sintering by the irradiation with laser light is completed, an elevator on which the product under preparation is placed is lowered by a thickness of one layer. Then, the powder material for sintering for the next step is extended to form a thin layer and the laser light is applied, always on a plane at the same position. The process for extending the powder material for sintering is not particularly limited. For example, the powder material for sintering may be sprayed from an upper position, or the supplied powder material for sintering may be treated by a roller to prepare a thin layer having a uniform thickness. Between the above processes, the process of treating by a roller is preferable since a thin layer having a uniform thickness and a small content of a cavity can be formed with excellent reproducibility.

Please replace the first paragraph on page 11 with the following amended paragraph:

The powder material for sintering used in the present invention comprises 30 to 90 parts  $\frac{8}{2}$  by weight of powder of a synthetic resin and 10 to 70% by weight of an inorganic filler and, preferably, 50 to 80 parts  $\frac{8}{2}$  by weight of powder of a synthetic resin and 20 to 50% by weight of an inorganic filler.

When the amount of the powder of a synthetic resin is less than 30% by weight and the amount of the inorganic filler exceeds 70% by weight, the obtained artificial bone model is hard brittle, and there is the possibility that the property for cutting is different from that of the natural bone. When the amount of the powder of a synthetic resin exceeds than 90% by weight and the amount of the inorganic filler is less than 10% by weight, there is the possibility that the property for cutting of the obtained artificial bone model is poor. Since the hardness and the brittleness (or the flexibility) of the obtained artificial bone model can be adjusted by controlling the relative amounts of the powder of a synthetic resin and the inorganic filler, any artificial bone model in the range of a hard bone model of an aged person to a soft bone model of an infant can be prepared in accordance with the object.

Please replace the paragraph beginning on line 20 of page 12 with the following amended paragraph:

In the process of the present invention, the method for obtaining the tomographic tomographic information of a bone is not

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particularly limited. Examples of the method include the magnetic resonance imaging (MRI), the X-ray computer tomography (X-ray CT) and the ultrasonic wave computer tomography (ultrasonic CT).